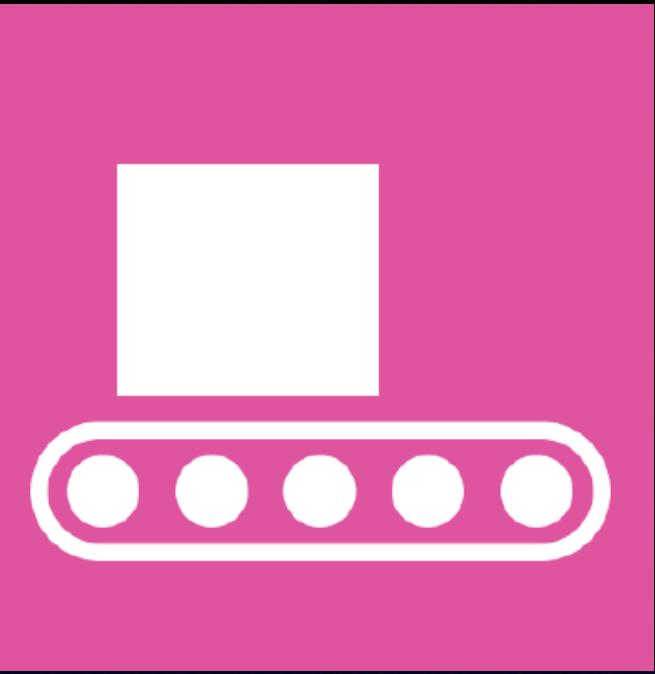


Resources For This Session:



github.com/jazzace/autopkg-level-up

Anthony Reimer

 [@AnthonyReimer](https://twitter.com/AnthonyReimer)

[jazzace](#)

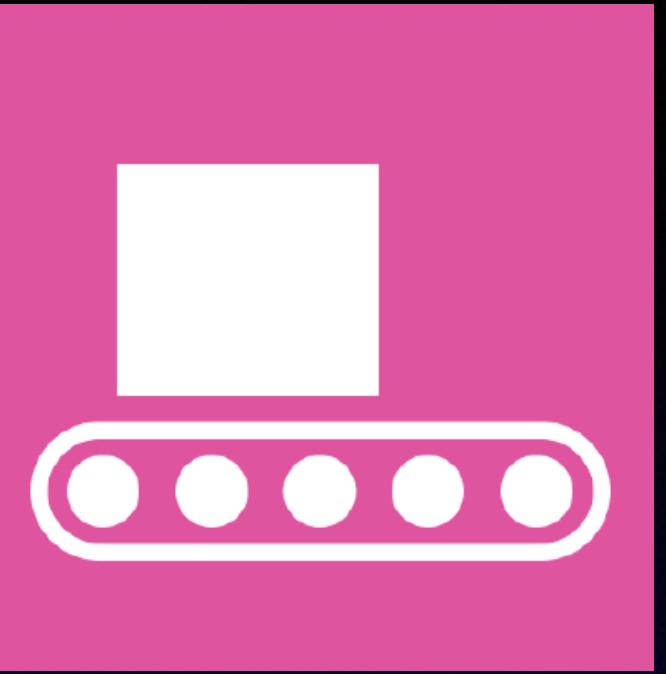
 [jazzace](#)

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CALGARY

AutoPkg Level-Up



Anthony Reimer

 [AnthonyReimer](#)

[jazzace](#)

 [jazzace](#)

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I tried.

I cried.

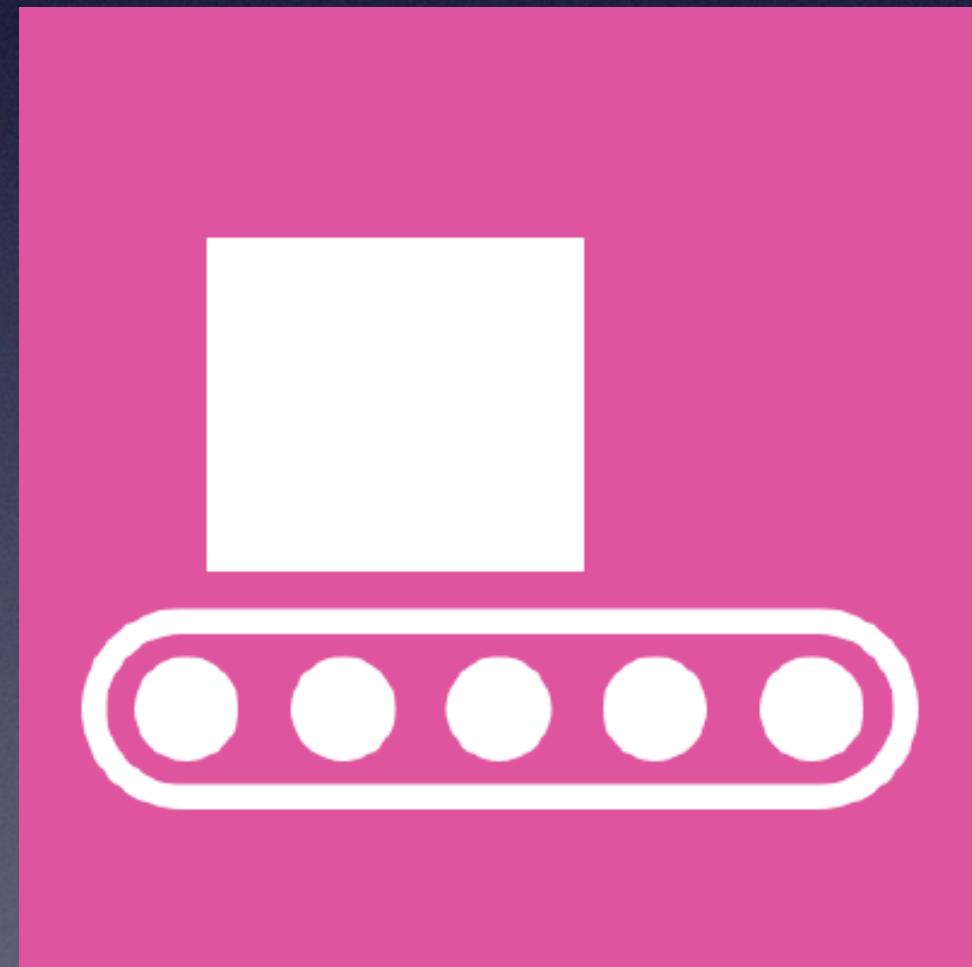
Survey says...

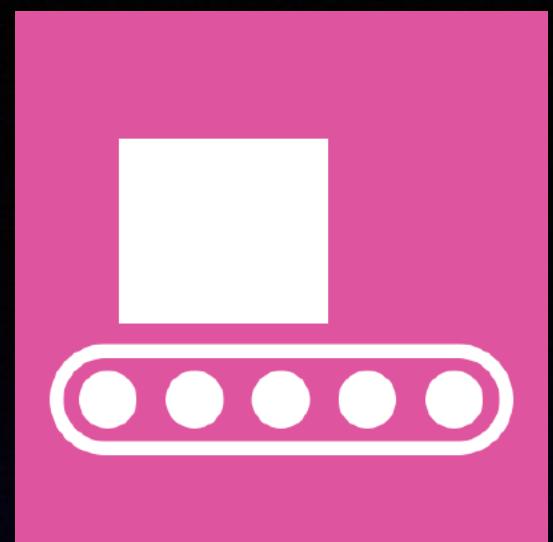
Just to be clear

“AutoPkg is an automation framework for macOS software packaging and distribution, oriented towards the tasks one would normally perform manually to prepare third-party software for mass deployment to managed clients.”

– AutoPkg Read Me file on GitHub

AutoPkg v. AutoPkgr





command line



User interface

Runs AutoPkg

Assisted Initial Setup

Access to all run options

Processor list & info

Includes Scheduled Runs

Includes Notifications

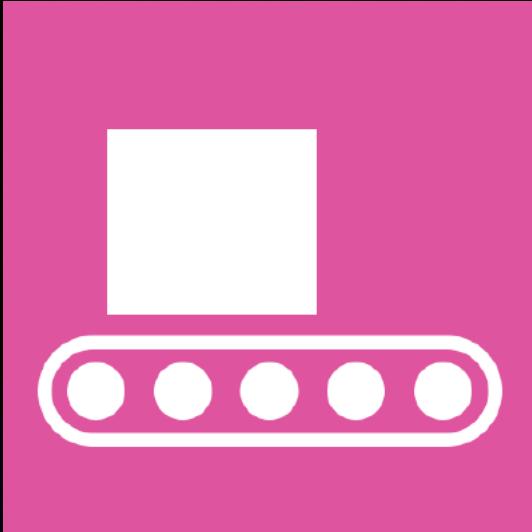
Supports Trust verification

In Active Development



GUI





autopkg *verb options*

Common Examples:

- ▶ autopkg help
- ▶ autopkg *verb* --help
- ▶ autopkg run *productname.recipetype*
- ▶ autopkg list-recipes

AutoPkgr

Install Repos & Recipes Schedule Notifications Folders & Integration

Update Repos Now ?

Repo Clone URL

- <https://github.com/autopkg/recipes.git> ★ 122 Status
- <https://github.com/autopkg/homebysix-recipes.git> ★ 55
- <https://github.com/autopkg/nmcspadden-recipes.git> ★ 45
- <https://github.com/autopkg/jss-recipes.git> ★ 36
- <https://github.com/autopkg/hjuutilainen-recipes.git> ★ 25
- <https://github.com/autopkg/hansen-m-recipes.git> ★ 21
- <https://github.com/autopkg/arubdesu-recipes.git> ★ 21

Add a repo URL manually: Add

Run Recipes Now ?

Recipe Name Recipe Identifier Status

- Adium.download com.github.autopkg.download.Aodium
- Adium.install com.github.autopkg.install.Aodium
- Adium.munki com.github.autopkg.munki.Aodium
- Adium.pkg com.github.autopkg.pkg.Aodium
- AdobeAIR.download com.github.autopkg.download.AdobeAIR
- AdobeAIR.pkg com.github.autopkg.pkg.AdobeAIR
- AdobeAcrobatPro9Upda... com.github.autopkg.download.AdobeAcrobatPro9...
- AdobeAcrobatPro9Upda... com.github.autopkg.munki.AdobeAcrobatPro9...

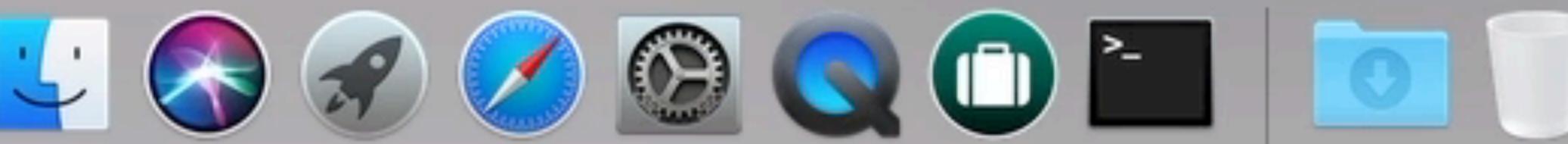
Search for a recipe on GitHub: Search

Active recipe list: recipe_list + -

```
[S] autopkg help
Usage: autopkg <verb> <options>, where <verb> is one of the following:
```

audit	(Audit one or more recipes.)
help	(Display this help)
info	(Get info about configuration or a recipe)
install	(Run one or more install recipes. Example: autopkg i
nstall Firefox -- equivalent to: autopkg run Firefox.install)	
list-processors	(List available core Processors)
list-recipes	(List recipes available locally)
make-override	(Make a recipe override)
processor-info	(Get information about a specific processor)
repo-add	(Add one or more recipe repo from a URL)
repo-delete	(Delete a recipe repo)
repo-list	(List installed recipe repos)
repo-update	(Update one or more recipe repos)
run	(Run one or more recipes)
search	(Search for recipes on GitHub.)
update-trust-info	(Update or add parent recipe trust info for a recipe
override.)	
verify-trust-info	(Verify parent recipe trust info for a recipe overri
de.)	
version	(Print the current version of autopkg)

autopkg <verb> --help for more help for that verb
\$



gr

Notifications Folders & Integration

Q Filter repos

Stars Status

★ 122



★ 55

★ 45

★ 36

★ 25

★ 21

★ 21

+ 24

Add

Q Filter recipes

Status

g.download.Adium

g.install.Adium

g.munki.Adium

g.pkg.Adium

g.download.AdobeAIR

g.pkg.AdobeAIR

g.download.AdobeAcrobatPro

tech — -bash — 75x35

\$ autopkg help

Usage: autopkg <verb> <options>, where <verb> is one of the following:

audit	(Audit one or more recipes.)
help	(Display this help)
info	(Get info about configuration or a recipe)
install	(Run one or more install recipes. Example: autopkg i nstall Firefox -- equivalent to: autopkg run Firefox.install)
list-processors	(List available core Processors)
list-recipes	(List recipes available locally)
make-override	(Make a recipe override)
processor-info	(Get information about a specific processor)
repo-add	(Add one or more recipe repo from a URL)
repo-delete	(Delete a recipe repo)
repo-list	(List installed recipe repos)
repo-update	(Update one or more recipe repos)
run	(Run one or more recipes)
search	(Search for recipes on GitHub.)
update-trust-info	(Update or add parent recipe trust info for a recipe override.)
verify-trust-info	(Verify parent recipe trust info for a recipe overri de.)
version	(Print the current version of autopkg)

autopkg <verb> --help for more help for that verb

\$

AutoPkgr

Install **Repos & Recipes** Schedule Notifications Folders & Integration

Update Repos Now Filter repos

Repo Clone URL	Stars	Status
<input checked="" type="checkbox"/> https://github.com/autopkg/recipes.git	★ 122	●
<input checked="" type="checkbox"/> https://github.com/autopkg/homebysix-recipes.git	★ 56	●
<input checked="" type="checkbox"/> https://github.com/autopkg/nmcspadden-recipes.git	★ 45	●
<input checked="" type="checkbox"/> https://github.com/autopkg/jss-recipes.git	★ 36	●
<input checked="" type="checkbox"/> https://github.com/autopkg/hjuutilainen-recipes.git	★ 25	●
<input checked="" type="checkbox"/> https://github.com/autopkg/hansen-m-recipes.git	★ 21	●
<input checked="" type="checkbox"/> https://github.com/autopkg/arubdesu-recipes.git	★ 21	●
<input checked="" type="checkbox"/> https://github.com/autopkg/cgerke-recipes.git	★ 21	●
<input checked="" type="checkbox"/> https://github.com/autopkg/scriptingosx-recipes.git	★ 20	●

Add a repo URL manually: Add

Run Recipes Now Filter recipes

Recipe Name	Recipe Identifier	Status
<input checked="" type="checkbox"/> AdobeAcrobatProXUpdate	local.download.AdobeAcrobatProXUpdate	
<input checked="" type="checkbox"/> AppleSupportHT207305	local.download.AppleSupportHT207305	
<input checked="" type="checkbox"/> AppleSupportHT208020	local.download.AppleSupportHT208020	
<input checked="" type="checkbox"/> AppleSupportHT208312	local.download.AppleSupportHT208312	
<input checked="" type="checkbox"/> AppleSupportHT208488	local.download.AppleSupportHT208488	
<input checked="" type="checkbox"/> AutoDMG.install	local.install.AutoDMG	
<input checked="" type="checkbox"/> AutoPkgr.install	local.install.AutoPkgr	
<input checked="" type="checkbox"/> Fetch.install	local.install.Fetch	
<input checked="" type="checkbox"/> Firefox.install	local.install.Firefox	

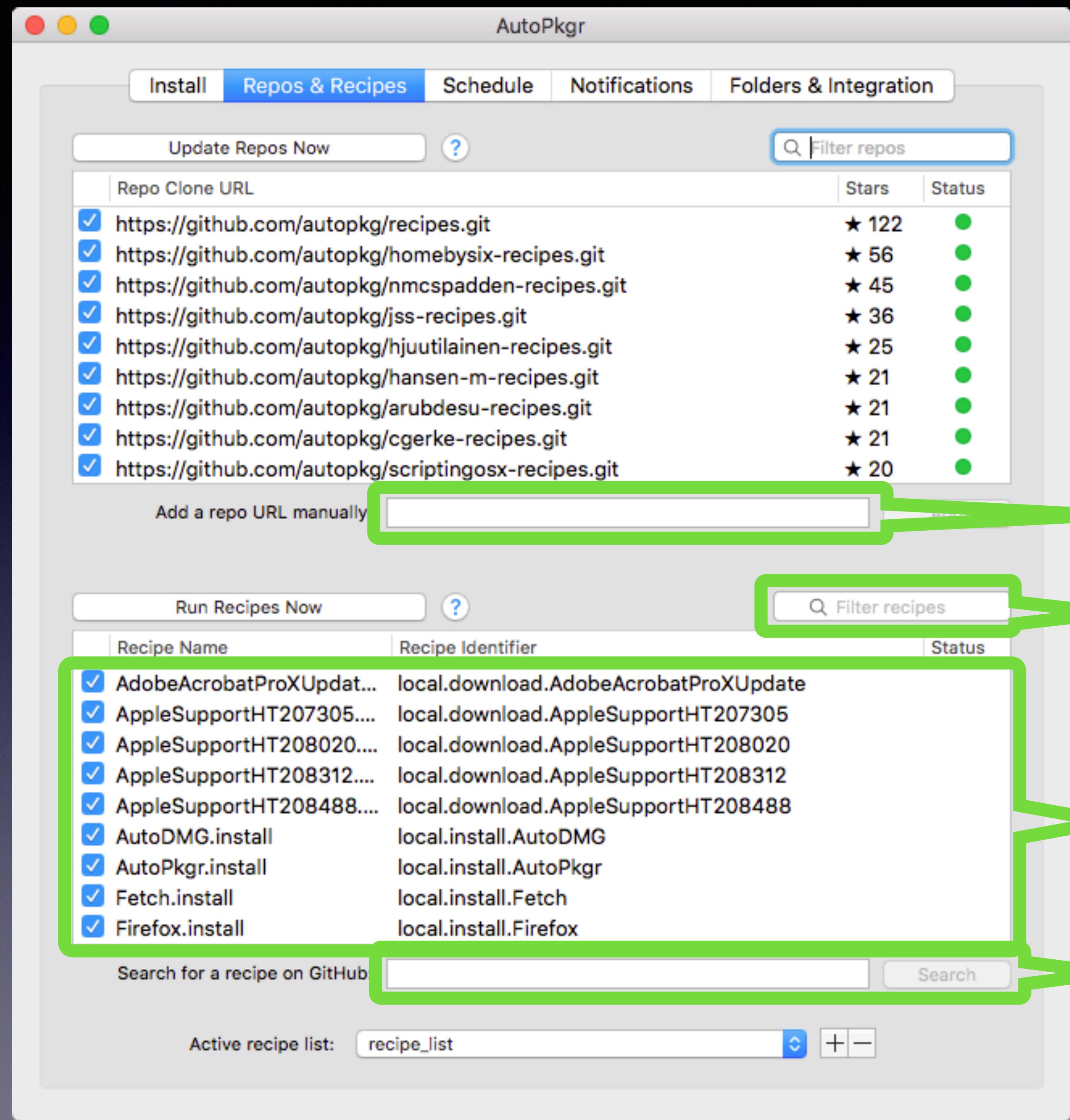
Search for a recipe on GitHub: Search

Active recipe list:

autopkg update-repo all

**autopkg repo-add
githubuser-recipes.git**
(or repo-delete)

**autopkg run -l ~/Library/
Application\ Support/
AutoPkgr/recipe_list.txt**

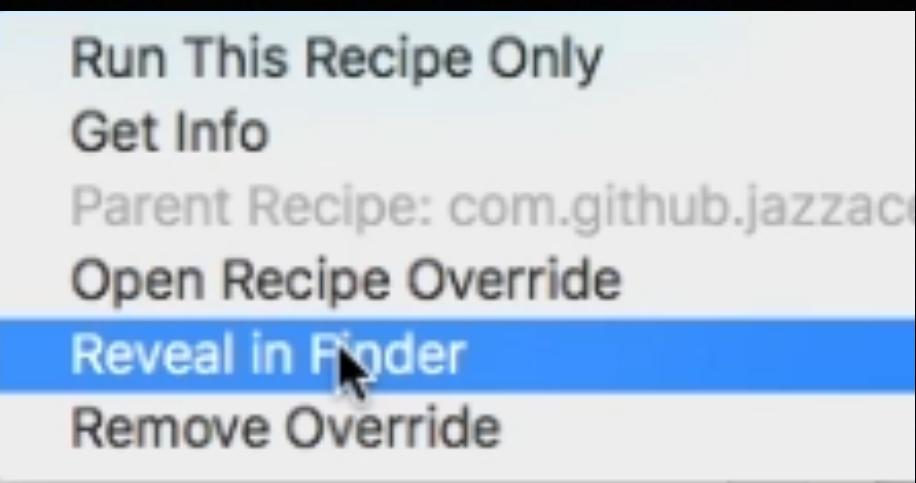


autopkg repo-add https://path/to/ghuser-recipes.git

autopkg list-recipes -i | fgrep -i searchterm

autopkg list-recipes -i

autopkg search searchterm



Recipe Commands

AutoPkgr Contextual Menu	AutoPkg
Run This Recipe Only	<code>autopkg run</code>
Get Info	<code>autopkg info</code>
Create Override	<code>autopkg make-override</code>
Open Recipe Override	<code>open -t ~/Library/AutoPkg/RecipeOverrides/<i>name.type.recipe</i></code>
Reveal in Finder (Override only)	<code>open -R ~/Library/AutoPkg/RecipeOverrides/<i>name.type.recipe</i></code>
Remove Override	<code>rm ~/Library/AutoPkg/RecipeOverrides/<i>name.type.recipe</i></code>

Reading and Writing Recipes

Self Saucing Fudge Dessert

When Joan serves this to company, she puts a scoop of ice cream on the pudding base before topping it with the sauce.

Pudding Base

1 cup	flour	250 mL
2 tsp.	baking powder	10 mL
½ tsp.	salt	1 mL
½ cup	sugar	125 mL
3 tbsp.	cocoa	50 mL
½ cup	chopped nuts	125 mL
½ cup	milk	125 mL
1 tsp.	vanilla	125 mL
2 tbsp.	melted butter or margarine	5 mL
		25 mL

Sauce

4 tbsp.	cocoa	65 mL
½ cup	sugar	125 mL
2 cups	hot water	500 mL

Sift into a two quart (litre) casserole, flour, baking powder, salt, ½ cup (125 mL) of sugar and 3 tablespoons (50 mL) of cocoa. Stir in the nuts. Make a well in the centre and add milk, vanilla and melted butter. Stir lightly and smooth evenly over bottom of the casserole.

Mix ½ cup (125 mL) of sugar and 4 tablespoons (65 mL) of cocoa. Sprinkle mixture over pudding base. Pour hot water over cocoa sugar mixture. Bake at 350°F (180°C) for 30 minutes. The batter rises and a rich sauce forms under it. Serve hot.



71

Name

Self Saucing Fudge Dessert

When Joan serves this to company, she puts a scoop of ice cream on the pudding base before topping it with the sauce.

Pudding Base

1 cup	flour	250 mL
2 tsp.	baking powder	10 mL
¼ tsp.	salt	1 mL
½ cup	sugar	125 mL
3 tbsp.	cocoa	50 mL
½ cup	chopped nuts	125 mL
½ cup	milk	125 mL
1 tsp.	vanilla	125 mL
2 tbsp.	melted butter or margarine	5 mL

Sauce

4 tbsp.	cocoa	65 mL
½ cup	sugar	125 mL
2 cups	hot water	500 mL

Sift into a two quart (litre) casserole, flour, baking powder, salt, ½ cup (125 mL) of sugar and 3 tablespoons (50 mL) of cocoa. Stir in the nuts. Make a well in the centre and add milk, vanilla and melted butter. Stir lightly and smooth evenly over bottom of the casserole.

Mix ½ cup (125 mL) of sugar and 4 tablespoons (65 mL) of cocoa. Sprinkle mixture over pudding base. Pour hot water over cocoa sugar mixture. Bake at 350°F (180°C) for 30 minutes. The batter rises and a rich sauce forms under it. Serve hot.

Ingredients

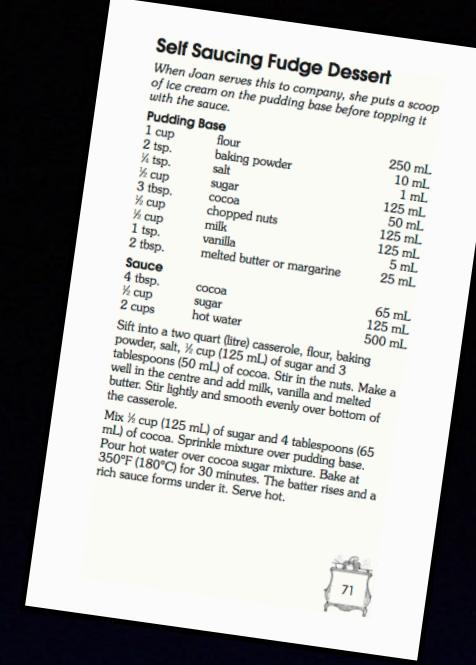


Instructions

Identifier

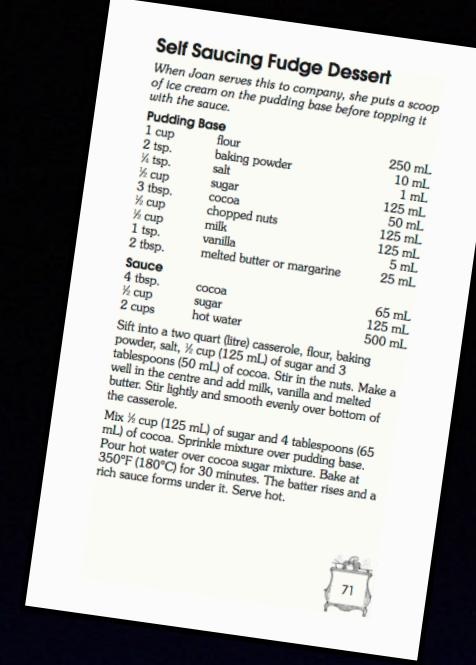
Input

Process



About AutoPkg Recipes

- Series of steps (Processors)
- plist (XML)
- Can leverage other recipes (“Parent-Child”)
- Best practice is to create a recipe chain rather than an omnibus (monolithic) recipe



Does it already exist?

- GitHub Repos

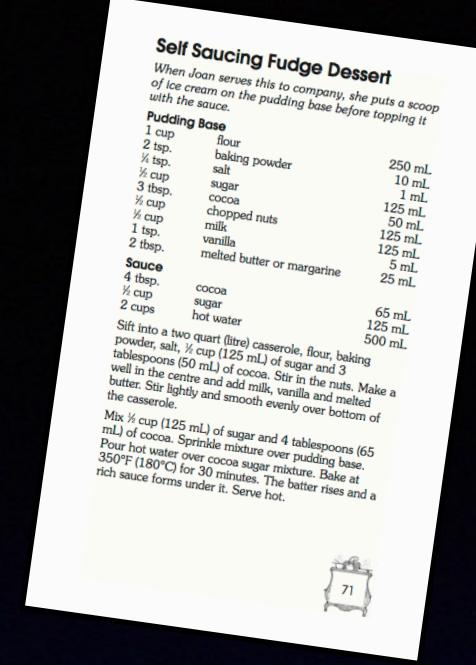
- ▶ github.com/autopkg/recipes
- ▶ github.com/autopkg/*-recipes
- ▶ github.com/arubdesu/office-recipes

July '14 May '15 June '16 June '18

Total Recipes	630	1679	4079	5936
.download	258	519	1156	1667
.munki	267	458	1037	1537
.pkg	95	325	794	1205
.install	0	161	596	723

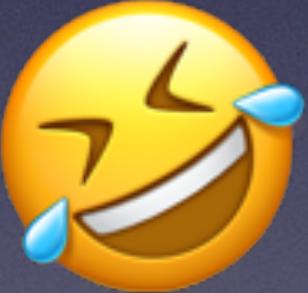
July '14 May '15 June '16 June '18

.jss	8	114	269	430
.filewave	0	0	14	171
.absolute, .lanrev	0	19	109	110
.sccm	0	50	51	51
.ds	0	25	34	41



Creating a New Recipe

- Steal Adapt an existing recipe
- Recipe Robot
- Write it from scratch



AutoPkgr

Recipe search results:

NVivo.download	jazzace-recipes
NVivo.pkg	jazzace-recipes
NVivo.ds	jazzace-recipes
NVivo10.munki	joshua-d-miller-recipes
NVivo11.munki	joshua-d-miller-recipes
NVivo10.download	joshua-d-miller-recipes
NVivo11.download	joshua-d-miller-recipes
NVivo11.download	nzmacgeek-recipes
NVivo11.pkg	nzmacgeek-recipes

Close **Add Repo**

This panel will only add the recipe repo. Enable individual recipes back in the main window.

Run Recipes Now **?** **nvivo** **x**

Recipe Name	Recipe Identifier	Status

Search for a recipe on GitHub: **nvivo** **Search**

Active recipe list: **recipe_list** **+ -**

```
[S] tech — bash — 75x35
$ autopkg search nvivo

Name                                     Repo                               Path
-----
NVivo.download.recipe                   jazzace-recipes           QSRInternational/NV
ivo.download.recipe                   jazzace-recipes           QSRInternational/NV
NVivo.pkg.recipe                      jazzace-recipes           QSRInternational/NV
ivo.pkg.recipe                        jazzace-recipes           QSRInternational/NV
NVivo.ds.recipe                       jazzace-recipes           QSRInternational/NV
ivo.ds.recipe                         jazzace-recipes           NVivo/NVivo10.munki
NVivo10.munki.recipe.recipe           joshua-d-miller-recipes NVivo/NVivo11.munki
NVivo11.munki.recipe.recipe           joshua-d-miller-recipes NVivo/NVivo10.download
NVivo10.download.recipe.recipe       joshua-d-miller-recipes NVivo/NVivo11.download
NVivo11.download.recipe.recipe       joshua-d-miller-recipes NVivo/NVivo11.pkg.recipe
```

To add a new recipe repo, use 'autopkg repo-add <repo name>'
\$



```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd"> Doc Type Def
<plist version="1.0">
<dict>
  <key>Description</key>
  <string>Downloads the latest verison of NVivo 10</string>
  <key>Identifier</key>
  <string>com.github.joshua-d-miller.download.nvivo10</string>
  <key>Input</key>
  <dict>
    <key>NAME</key>
    <string>NVivo</string>
  </dict>
  <key>MinimumVersion</key>
  <string>0.2.0</string>
  <key>Process</key>
  <array>
    <dict>
      <key>Processor</key>
      <string>URLDownloader</string>
      <key>Arguments</key>
      <dict>
        <key>url</key>
        <string>http://download.qsrinternational.com/Software/NVivo10forMac/NVivo.dmg</string>
        <key>filename</key>
        <string>%NAME%.dmg</string>
      </dict>
    </dict>
    <dict>
      <key>Processor</key>
      <string>EndOfCheckPhase</string>
    </dict>
  </array>
</dict>
</plist>
```

Description

Identifier

Input

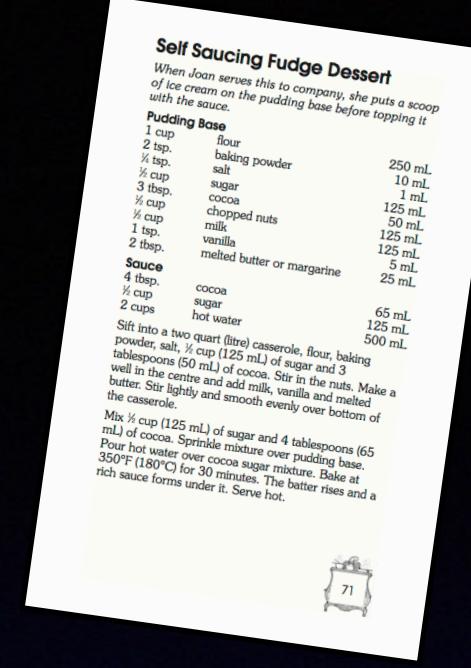
Minimum Version

URLDownloader

Process

EndOfCheckPhase

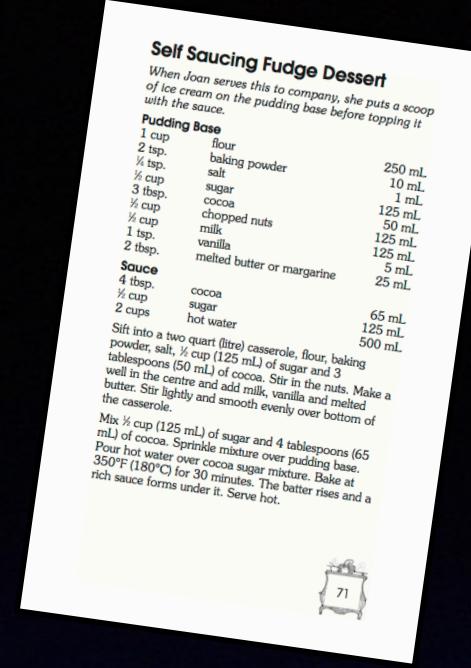
github.com/autopkg/joshua-d-miller-recipes/blob/master/NVivo/NVivo10.download.recipe



NVivo10.download.recipe

Key	Value/Processors
Description	Downloads the latest version of NVivo 10
Identifier	com.github.joshua-d-miller.download.nvivo10
Input	NAME="NVivo" (can override)
Minimum Version	0.2.0
Process	URLDownloader, EndOfCheckPhase

```
<key>Process</key>
<array>
<dict>
  <key>Processor</key>
  <string>CURLDownloader</string>
  <key>Arguments</key>
  <dict>
    <key>url</key>
    <string>http://download.qsrinternational.com/Software/
NVivo11forMac/NVivo.dmg</string>
  </dict>
</dict>
<dict>
  <key>Processor</key>
  <string>AppDmgVersioner</string>
  <key>Arguments</key>
  <dict>
    <key>dmg_path</key>
    <string>%pathname%</string>
  </dict>
</dict>
</array>  github.com/autopkg/nzmacgeek-recipes/blob/master/NVivo/NVivo11.download.recipe
```



Processor Info

```
$ autopkg processor-info AppDmgVersioner
```

Description: Extracts bundle ID and version of app inside dmg.

Input variables:

dmg_path:

required: True

description: Path to a dmg containing an app.

Output variables:

version:

description: Version of the app.

app_name:

description: Name of app found on the disk image.

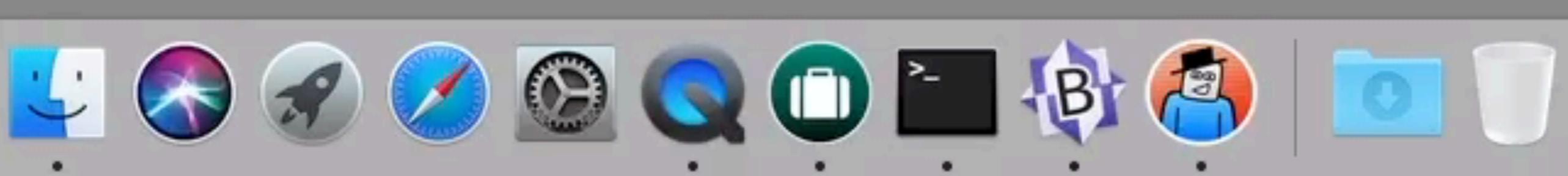
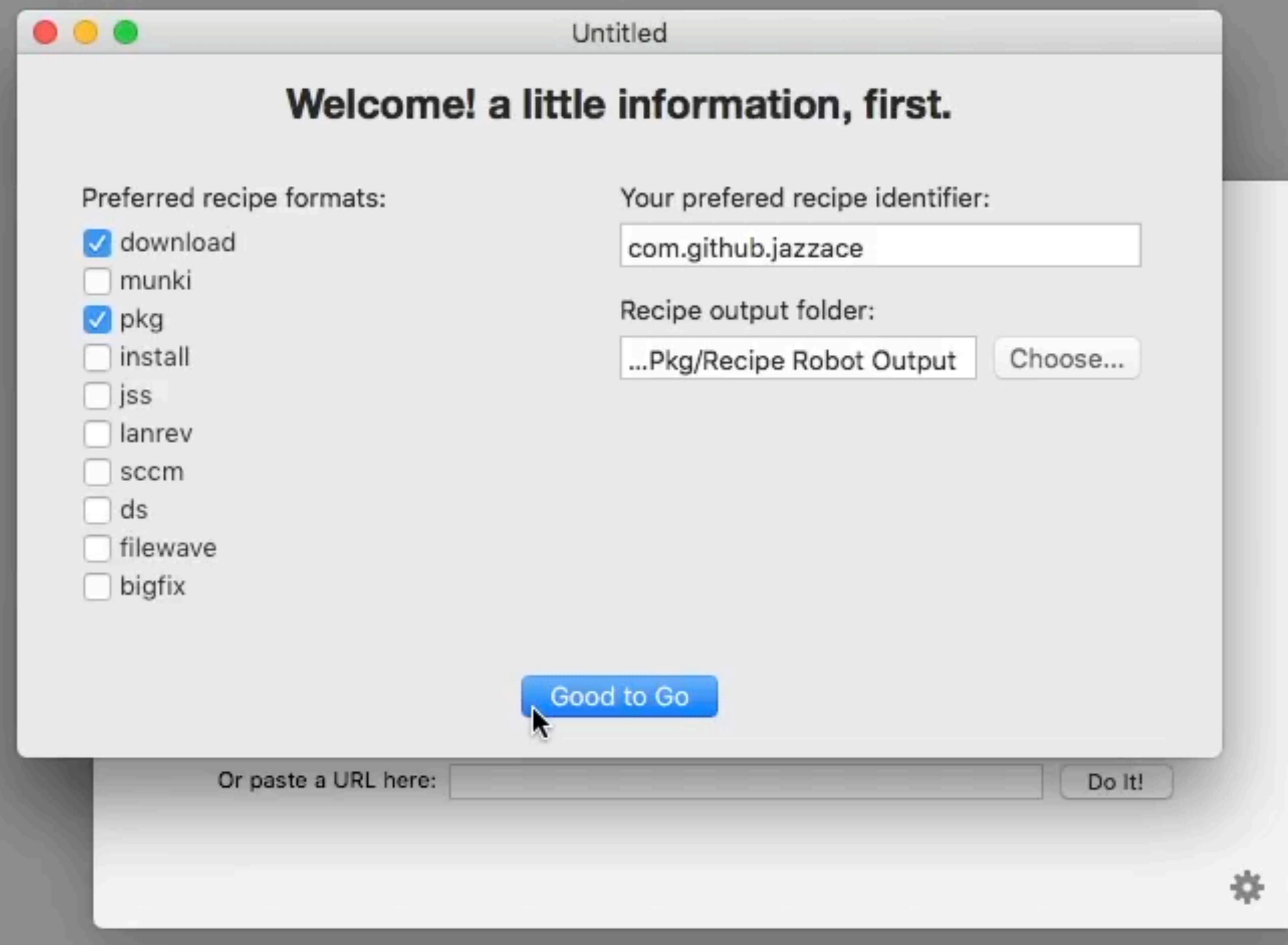
bundleid:

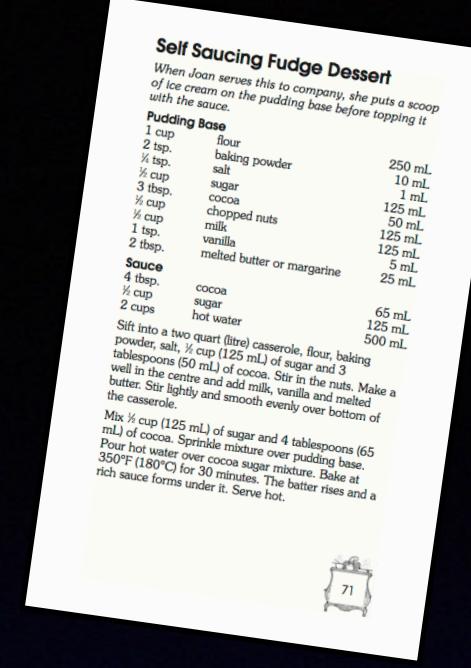
description: Bundle identifier of the app.



Recipe Robot

- Project Home
 - ▶ github.com/homebysix/recipe-robot
- Elliot Jordan & Shea Craig PSU 2016 Talk
 - ▶ Slides: macadmins.psu.edu/wp-content/uploads/sites/24696/2016/06/psumac2016-81-Writing-better-AutoPkg-recipes-with-Recipe-Robot.pdf
 - ▶ Video: youtu.be/5VKDzY8bBxI





NVivo12.download.recipe

Key	Value/Processors
Description	Downloads the latest version of NVivo 12
Identifier	com.github.jazzace.download.nvivo12
Input	DOWNLOAD_URL and NAME (can override)
Minimum Version	1.0.0
Process	URLDownloader, EndOfCheckPhase, CodeSignatureVerifier, Versioner

Trust





Trust When Installing

- Source is valid
- Downloaded copy is valid
- The Installer won't do bad things
- The App won't do bad things



MacDeployment Workshop Day – June 2016



Trust With AutoPkg

- Source is valid
- Downloaded copy is valid
- The Installer won't do bad things
- The App won't do bad things
- The Automation won't do bad things
 - ▶ AutoPkg code, Processors, Recipes



Trust Should Be Earned

How (not) to do bad things with AutoPkg

– Elliot Jordan

- ▶ **MacAD.UK 2016**

<https://github.com/homebysix/how-not-to-do-bad-things-with-autopkg>

- ▶ **MacDevOps 2016**

https://youtu.be/Q_cvgGtJ71M

- ▶ **Mac Admins at Penn State 2017**

Video: <https://youtu.be/LnvQmLcDF8w>

Slides: <http://macadmins.psu.edu/files/2017/07/psumac2017-195-How-Not-To-Do-Bad-Things-With-AutoPkg-1w0jwjx.pdf>

audit
verify-trust-info
update-trust-info

v1.0.0
8e91a69

AutoPkg 1.0 Official Release

timsutton released this on Nov 16, 2016 · 72 commits to master since this release

Assets

[autopkg-1.0.0.pkg](#) 88.8 KB
[Source code \(zip\)](#)
[Source code \(tar.gz\)](#)

This is the official release of AutoPkg 1.0. There were no changes from Release Candidate 1.

1.0.0 (November 16, 2016)

ADDITIONS:

- New `audit` verb, used to output helpful information about any recipes that:
 - Are missing a `CodeSignatureVerifier` step
 - Use non-HTTP URLs for downloads
 - Supply their own processors and thus will run code not provided by AutoPkg itself
 - Use processors that may potentially be modifying the original software downloaded from the vendor
- New `verify-trust-info` and `update-trust-info` verbs. These can be used to add "trust" hash information to a recipe override. If a parent recipe and/or its processor(s) is later updated (typically via a third-party recipe repo and running `autopkg repo-update` against this or all recipe repos), this trust information will be invalid and prevent the recipe from running until the trust information has been updated. Running `verify-trust-info` with additional verbosity will print out full diffs of upstream changes made since the last trust information was recorded, and `update-trust-info` will update it to match the current state of parent recipes. This behaviour can be bypassed using the `FAIL_RECIPES_WITHOUT_TRUST_INFO` AutoPkg preference. See the [wiki article](#) for more information.
- New `AppPkgCreator` processor, a single processor replacing the several steps previously required for building a package from an application bundle.
- Support for "rich" recipe lists in property list format, which can specify pre/post-processors and additional input variables for that specific run. See the [Running Multiple Recipes article](#) for more details.



Auditing What You Run

- ▶ autopkg audit *name.of.recipe*
- ▶ autopkg audit --recipe-list ~/Library/Application\ Support/AutoPkgr/recipe_list.txt



Auditing My Own Repo

- ▶ autopkg audit ~/Library/AutoPkg/RecipeRepos/com.github.autopkg.jazzace-recipes/*/*.download.recipe

Summary:

12 recipes audited

8 recipes with audit issues

4 recipes triggered no audit flags



Non-Core Processor

[ProVideoFormats.download.recipe]

The following processors are non-core and can execute arbitrary code, performing any action.

Be sure you understand what the processor does and/or you trust its source:

`com.github.n8felton.shared/
AppleSupportDownloadInfoProvider`



Three Things to Address

[TouchOSCEditor.download.recipe]

Missing CodeSignatureVerifier

The following http URLs were found in the recipe:
Process:

URLTextSearcher:

url: <http://hexler.net/software/touchosc>

URLDownloader:

url: <http://www.hexler.net%uri%>



CodeSignatureVerifier

- Hannes Juutilainen
- “Verifies application bundle or installer package signature”



Retrieve Code Signature

- Application Bundle (.app)
 - ▶ `codesign --display -r- --deep /path/to/the.app`
 - ▶ *If .zip, unarchive first (Unarchiver processor in recipe)*
- Package Installer (.pkg)
 - ▶ `pkgutil --check-signature /path/to/the.pkg`

<https://github.com/autopkg/autopkg/wiki/Using-CodeSignatureVerification/>



Obtain Code Signature

```
$ codesign --display -r- --deep /path/to/Touch0SC\  
Editor.app
```

Executable=/path/to/Touch0SC Editor.app/Contents/MacOS/
universalJavaApplicationStub

```
host => identifier "com.apple.bash" and anchor apple
```

```
designated => identifier "net.hexler.Touch0SCEditor"  
and anchor apple generic and certificate 1[field.  
1.2.840.113635.100.6.2.6] /* exists */ and certificate  
leaf[field.1.2.840.113635.100.6.1.13] /* exists */ and  
certificate leaf[subject.OU] = "784FHWRFM9"
```



Add Signature to Recipe

```
<key>Processor</key>
<string>CodeSignatureVerifier</string>
<key>Arguments</key>
<dict>
    <key>input_path</key>
    <string>%RECIPE_CACHE_DIR%/Unarchived/touchosc-
editor-%versn%-osx/%NAME%.app</string>
    <key>requirement</key>
    <string>identifier "net.hexler.TouchOSCEditor" and
anchor apple generic and certificate 1[field.
1.2.840.113635.100.6.2.6] /* exists */ and certificate
leaf[field.1.2.840.113635.100.6.1.13] /* exists */ and
certificate leaf[subject.OU] = "784FHWRMF9"</string>
</dict>
```

NVivo 12.download.recipe

~/Library/AutoPkg/Recipe Robot Output/QSR International Pty Ltd/NVivo 12.download.recipe (functions) #

```
34 <key>Processor</key>
35 <string>EndOfCheckPhase</string>
36 </dict>
37 <dict>
38 <key>Arguments</key>
39 <dict>
40 <key>input_path</key>
41 <string>%pathname%/NVivo 12.app</string>
42 <key>requirement</key>
43 <string>identifier "com.qsrinternational.NVivo-12" and anchor apple generic and c
44 </dict>
45 <key>Processor</key>
46 <string>CodeSignatureVerifier</string>
47 </dict>
48 <dict>
49 <key>Arguments</key>
50 <dict>
51 <key>input_plist_path</key>
52 <string>%pathname%/NVivo 12.app/Contents/Info.plist</string>
53 <key>plist_version_key</key>
54 <string>CFBundleShortVersionString</string>
55 </dict>
56 <key>Processor</key>
57 <string>Versioner</string>
58 </dict>
59 </array>
60 </dict>
```

NVivo11.download.recip

e

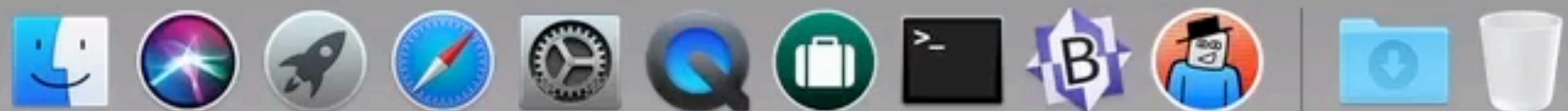
Doc - 977 bytes

Created 2018-06-22

Modified 2018-06-22

Last opened --

Add Tags...





Testing Recipes

- ▶ `autopkg run -vv NVivo12.download`
- ▶ `autopkg run -vv /path/to/
NVivo12.download.recipe`

AutoPkgr

load.recipe

Install Repos & Recipes Schedule Notifications Folders & Integration

Update Repos Now ? Filter repos

Repo Clone URL Stars Status

<input checked="" type="checkbox"/> https://github.com/autopkg/recipes.git	★ 122	●
<input checked="" type="checkbox"/> https://github.com/autopkg/joshua-d-miller-recipes.git	★ 9	●
<input checked="" type="checkbox"/> https://github.com/autopkg/nzmacgeek-recipes	★ 1	●
<input type="checkbox"/> https://github.com/autopkg/homebysix-recipes.git	★ 55	
<input type="checkbox"/> https://github.com/autopkg/nmcspadden-recipes.git	★ 45	
<input type="checkbox"/> https://github.com/autopkg/jss-recipes.git	★ 36	
<input type="checkbox"/> https://github.com/autopkg/hjuutilainen-recipes.git	★ 25	
...	...	

Add a repo URL manually: Add

Run Recipes Now ?

nvivo

Recipe Name Recipe Identifier Status

<input type="checkbox"/> NVivo11.download	com.github.nzmacgeek.nvivo11.download	
<input type="checkbox"/> NVivo11.pkg	com.github.nzmacgeek.nvivo11	
<input type="checkbox"/> NVivo11.download	com.github.joshua-d-miller.download.nvivo11	
<input type="checkbox"/> NVivo10.download	com.github.joshua-d-miller.download.nvivo10	
<input type="checkbox"/> NVivo11.munki	com.github.joshua-d-miller.autopkg.munki.nvivo11	
<input type="checkbox"/> NVivo10.munki	com.github.joshua-d-miller.autopkg.munki.nvivo10	
<input checked="" type="checkbox"/> NVivo12.download	com.github.jazzace.download.NVivo12	

Search for a recipe on GitHub: Search

Active recipe list: recipe_list

load.recipe

(functions) #

```
1/Software/NVivo12forMac/NVivo%2012.dmg</string>
```



AutoPkgr

Install Repos & Recipes Schedule Notifications Folders & Integration

Update Repos Now ? Filter repos

Downloads

NVivo

autopkg_results.plist

com.github.jazzace.download.NVivo12

downloads receipts

Favorites

- AirDrop
- Recents
- iCloud Drive
- Applications
- Desktop
- Documents
- Downloads

Active recipe list: recipe_list + -

```
tech — bash — 75x35
URLDownloader: No value supplied for CURL_PATH, setting default value of: /usr/bin/curl
URLDownloader: Item at URL is unchanged.
URLDownloader: Using existing /Users/tech/Library/AutoPkg/Cache/com.github.jazzace.download.NVivo12/downloads/NVivo 12.dmg
{'Output': {'pathname': u'/Users/tech/Library/AutoPkg/Cache/com.github.jazzace.download.NVivo12/downloads/NVivo 12.dmg'}}
EndOfCheckPhase
{'Input': {}}
{'Output': {}}
CodeSignatureVerifier
{'Input': {'input_path': u'/Users/tech/Library/AutoPkg/Cache/com.github.jazzace.download.NVivo12/downloads/NVivo 12.dmg/NVivo 12.app',
'requirement': u'identifier "com.qsinternational.NVivo-12" and anchor apple generic and certificate 1[field.1.2.840.113635.100.6.2.6] /* exists */ and certificate leaf[field.1.2.840.113635.100.6.1.13] /* exists */ and certificate leaf[subject.OU] = A66L57342X'}}
CodeSignatureVerifier: Mounted disk image /Users/tech/Library/AutoPkg/Cache/com.github.jazzace.download.NVivo12/downloads/NVivo 12.dmg
CodeSignatureVerifier: Verifying code signature...
CodeSignatureVerifier: Deep verification enabled...
CodeSignatureVerifier: Strict verification not defined. Using codesign defaults...
CodeSignatureVerifier: /private/tmp/dmg.tpWs8j/NVivo 12.app: valid on disk
CodeSignatureVerifier: /private/tmp/dmg.tpWs8j/NVivo 12.app: satisfies its Designated Requirement
CodeSignatureVerifier: /private/tmp/dmg.tpWs8j/NVivo 12.app: explicit requirement satisfied
CodeSignatureVerifier: Signature is valid
{'Output': {}}
Receipt written to /Users/tech/Library/AutoPkg/Cache/com.github.jazzace.download.NVivo12/receipts/NVivo12-receipt-20180626-142420.plist
```

Nothing downloaded, packaged or imported.



AutoPkg

Install Repos & Recipes Schedule Notifications Folders & Integration

Update Repos Now ? Filter repos NVivo

QSR International Pty Ltd

downloads QSR International Pty Ltd

NVivo 12...oad.recipe NVivo 12.pkg.recipe

Favorites

- AirDrop
- Recents
- iCloud Drive
- Applications
- Desktop
- Documents
- Downloads

Shared Hide

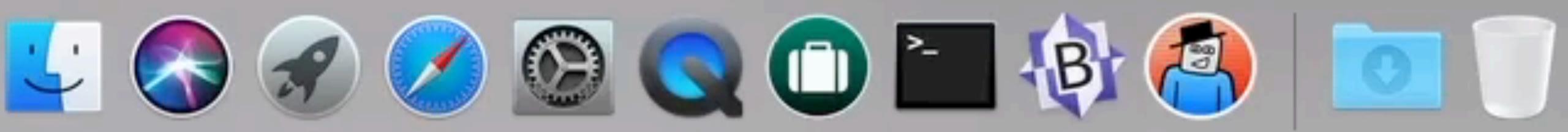
All... Last opened

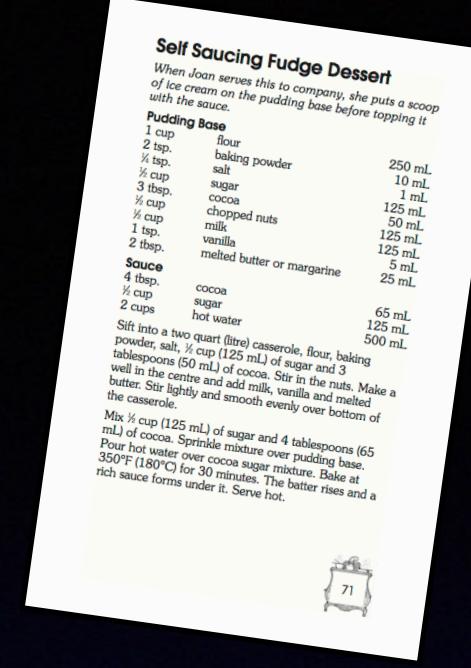
Active recipe list: recipe_list + -

```
tech — bash — 75x35
{'Output': {'app_pkg_creator_summary_result': {'data': {'identifier': 'com.qsrinternational.NVivo-12',
'pkg_path': '/Users/tech/Library/AutoPkg/Cache/com.github.jazzace.pkg.NVivo12/NVivo 12-12.1.0.pkg',
'version': '12.1.0',
'report_fields': ['identifier', 'version', 'pkg_path'],
'summary_text': 'The following packages were built:',
'new_package_request': True,
'version': '12.1.0'}}}}
Receipt written to /Users/tech/Library/AutoPkg/Cache/com.github.jazzace.pkg.NVivo12/receipts/NVivo12-receipt-20180626-150041.plist

The following packages were built:
Identifier Version Pkg Path
-----
com.qsrinternational.NVivo-12 12.1.0 /Users/tech/Library/AutoPkg/Cache/com.github.jazzace.pkg.NVivo12/NVivo 12-12.1.0.pkg

The following new items were downloaded:
Download Path
-----
/Users/tech/Library/AutoPkg/Cache/com.github.jazzace.pkg.NVivo12/downloads/NVivo 12.dmg
$
```





NVivo12.pkg.recipe

Key	Value/Processors
Description	Downloads the latest version of NVivo 12 and creates a package.
Identifier	com.github.jazzace.pkg.NVivo12
Input	BUNDLE_ID (DOWNLOAD_URL and NAME inherited)
Minimum Version	1.0.0
ParentRecipe	com.github.jazzace.download.NVivo12
Process	All from .download, then AppPkgCreator



Trust Verification

autopkg verify-trust-info

autopkg update-trust-info



Custom response



slackbot 7:48 AM

Getting `FAIL_RECIPES_WITHOUT_TRUST_INFO` warnings? Please see:

<https://github.com/autopkg/autopkg/wiki/AutoPkg-and-recipe-parent-trust-info#tldr>



Fail Recipes Without Trust Info

- It's a Warning
- Value can be unset or boolean
- Persistent (*Strongly Recommended*)
 - ▶ defaults write com.github.autopkg FAIL_RECIPES_WITHOUT_TRUST_INFO -bool YES
- Per Run
 - ▶ autopkg run *Product.pkg* -k FAIL_RECIPES_WITHOUT_TRUST_INFO=yes



Ignore Trust Info

- Persistent
 - ▶ defaults write com.github.autopkg FAIL_RECIPES_WITHOUT_TRUST_INFO -bool NO
 - ▶ defaults delete com.github.autopkg FAIL_RECIPES_WITHOUT_TRUST_INFO
- Per Run
 - ▶ autopkg run *Product.pkg* -k FAIL_RECIPES_WITHOUT_TRUST_INFO=""



tech — -bash — 75x35

```
[S] autopkg run -vv NVivo12.pkg
Processing NVivo12.pkg...
Failed local trust verification.
Receipt written to /tmp/receipts/NVivo12-receipt-20180626-155415.plist
```

The following recipes failed:

NVivo12.pkg

No trust information present.

Audit the recipe, then store trust info by running:

auto~~kg~~ make-override NVivo12.pkg

Nothing downloaded, packaged or imported.

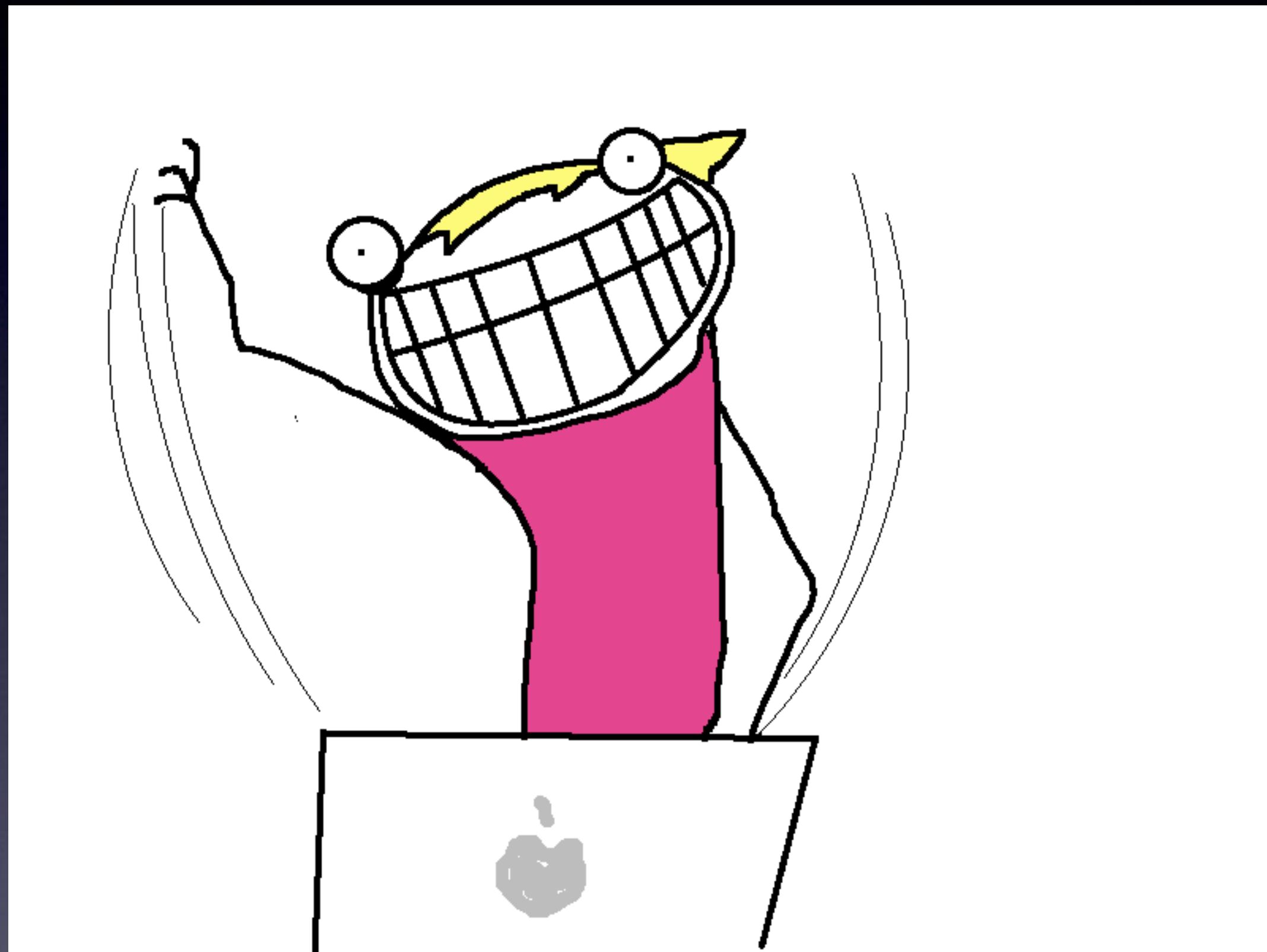
S

Override All The Recipes!

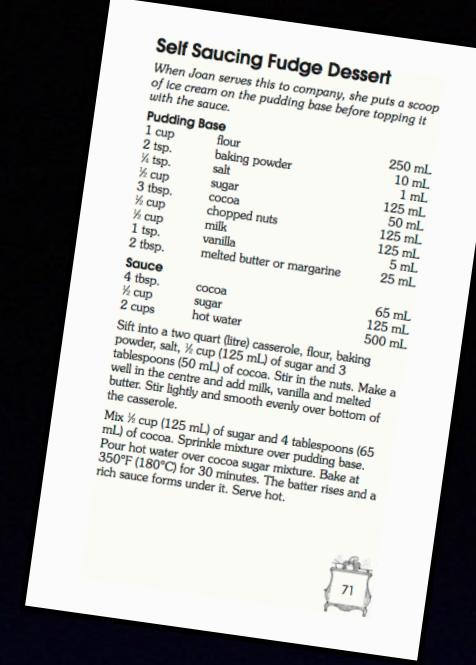


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Based on a work at hyperboleandahalf.blogspot.com.*

Override All The Recipes!



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Based on a work at hyperboleandahalf.blogspot.com.*



Recipe Overrides

- Allows you to set your own values for Input keys
- Default identifier:
local.RecipeType.AppName
- AutoPkg finds Overrides first
- v. 1.0+: Includes Trust information

AutoPkgr

Install Repos & Recipes Schedule Notifications Folders & Integration

Update Repos Now ? Filter repos

Repo Clone URL Stars Status

<input checked="" type="checkbox"/> https://github.com/autopkg/recipes.git	★ 122	●
<input checked="" type="checkbox"/> https://github.com/autopkg/joshua-d-miller-recipes.git	★ 9	●
<input checked="" type="checkbox"/> https://github.com/autopkg/nzmacgeek-recipes	★ 1	●
<input type="checkbox"/> https://github.com/autopkg/homebysix-recipes.git	★ 55	
<input type="checkbox"/> https://github.com/autopkg/nmcspadden-recipes.git	★ 45	
<input type="checkbox"/> https://github.com/autopkg/jss-recipes.git	★ 36	
<input type="checkbox"/> https://github.com/autopkg/hjuutilainen-recipes.git	★ 25	
...	...	

Add a repo URL manually: Add

Run Recipes Now ?

Recipe Name Recipe Identifier Status

<input type="checkbox"/> NVivo11.download	com.github.nzmacgeek.nvivo11.download	
<input type="checkbox"/> NVivo11.pkg	com.github.nzmacgeek.nvivo11	
<input type="checkbox"/> NVivo11.download	com.github.joshua-d-miller.download.nvivo11	
<input type="checkbox"/> NVivo10.download	com.github.joshua-d-miller.download.nvivo10	
<input type="checkbox"/> NVivo11.munki	com.github.joshua-d-miller.autopkg.munki.nvivo11	
<input type="checkbox"/> NVivo10.munki	com.github.joshua-d-miller.autopkg.munki.nvivo10	
<input type="checkbox"/> NVivo12.download	com.github.jazzace.download.NVivo12	

Search for a recipe on GitHub: Search

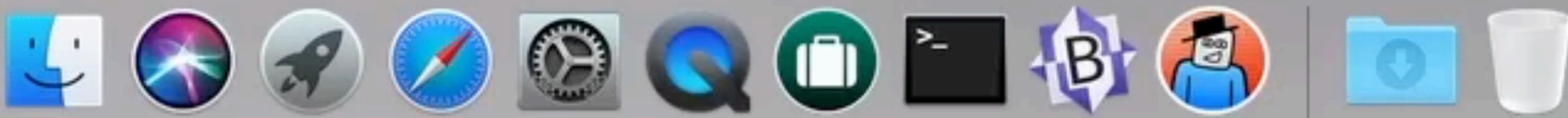
Active recipe list: recipe_list

tech — bash — 75x35

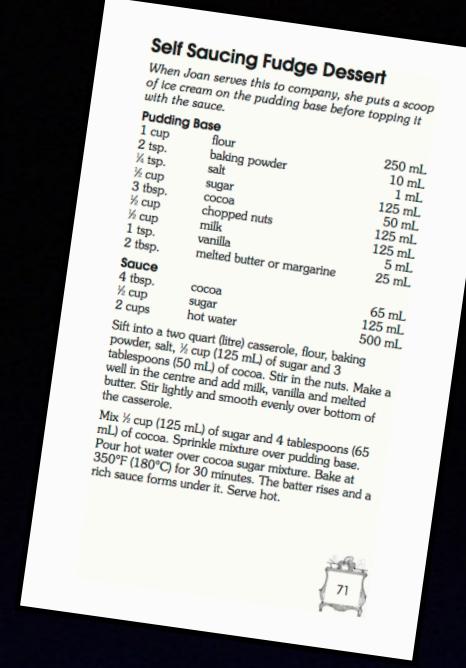
```
$ autopkg run -vv NVivo12.pkg
Processing NVivo12.pkg...
Failed local trust verification.
Receipt written to /tmp/receipts/NVivo12-receipt-20180626-155415.plist

The following recipes failed:
NVivo12.pkg
    No trust information present.
    Audit the recipe, then store trust info by running:
        autopkg make-override NVivo12.pkg

Nothing downloaded, packaged or imported.
```



Summary of pkg Override



Key	Value/Processors
Description	
Identifier	local.pkg.NVivo12
Input	NAME, BUNDLE_ID (from .pkg)
Minimum Version	
ParentRecipe	com.github.jazzace.pkg.NVivo
Process	
ParentRecipe TrustInfo	non_core_processors (empty), parent_recipes (.download, .pkg)



Why Would It Change?

- AutoPkgr
 - ▶ *Manually Update Repo(s) [Repos & Recipes]*
 - ▶ *Check "Update all repos before each AutoPkg run" [Schedule]*
- AutoPkg
 - ▶ `autopkg repo-update repo.git`
 - ▶ `autopkg repo-update all`
- Malware on your AutoPkg Mac/VM



Testing Trust

- Run recipe with
`FAIL_RECIPES_WITHOUT_TRUST_INFO` set
- `autopkg verify-trust-info [-vv]`

```
$ autopkg verify-trust-info Vienna.install  
Vienna.install: FAILED  
$
```

```
$ autopkg verify-trust-info -vv Vienna.install
Vienna.install: FAILED
    Processor com.github.homebysix.VersionSplitter/VersionSplitter contents differ from expected.
        Path: /Users/Shared/Installers/AutoPkg/RecipeRepos/com.github.autopkg.homebysix-recipes/VersionSplitter
/VersionSplitter.py
diff --git a/VersionSplitter/VersionSplitter.py b/VersionSplitter/VersionSplitter.py
index c021c99..04900ca 100755
--- a/VersionSplitter/VersionSplitter.py
+++ b/VersionSplitter/VersionSplitter.py
@@ -59,8 +59,8 @@ class VersionSplitter(Processor):

    split_on = self.env.get("split_on", " ")
    index = self.env.get("index", 0)
-    self.env["version"] = self.env["version"].split(split_on)[index]
-    self.output("Version: %s" % self.env["version"])
+    self.env["version"] = self.env["version"].decode('utf-8').split(split_on)[index]
+    self.output("Split version: {}".format(self.env["version"]))

if __name__ == "__main__":
commit 689fdf57c36001dee009e314f7e2b07e79caa073
Author: Elliot Jordan <homebysix@users.noreply.github.com>
Date:   Wed Apr 18 09:12:49 2018 -0700

    Handle special characters more gracefully

$
```

```
$ autopkg verify-trust-info -vv Vienna.install
Vienna.install: FAILED
    Processor com.github.homebysix.VersionSplitter/VersionSplitter contents differ from expected.
        Path: /Users/Shared/Installers/AutoPkg/RecipeRepos/com.github.autopkg.homebysix-recipes/VersionSplitter
/VersionSplitter.py
diff --git a/VersionSplitter/VersionSplitter.py b/VersionSplitter/VersionSplitter.py
index c021c99..04900ca 100755
--- a/VersionSplitter/VersionSplitter.py
+++ b/VersionSplitter/VersionSplitter.py
@@ -59,8 +59,8 @@ class VersionSplitter(Processor):

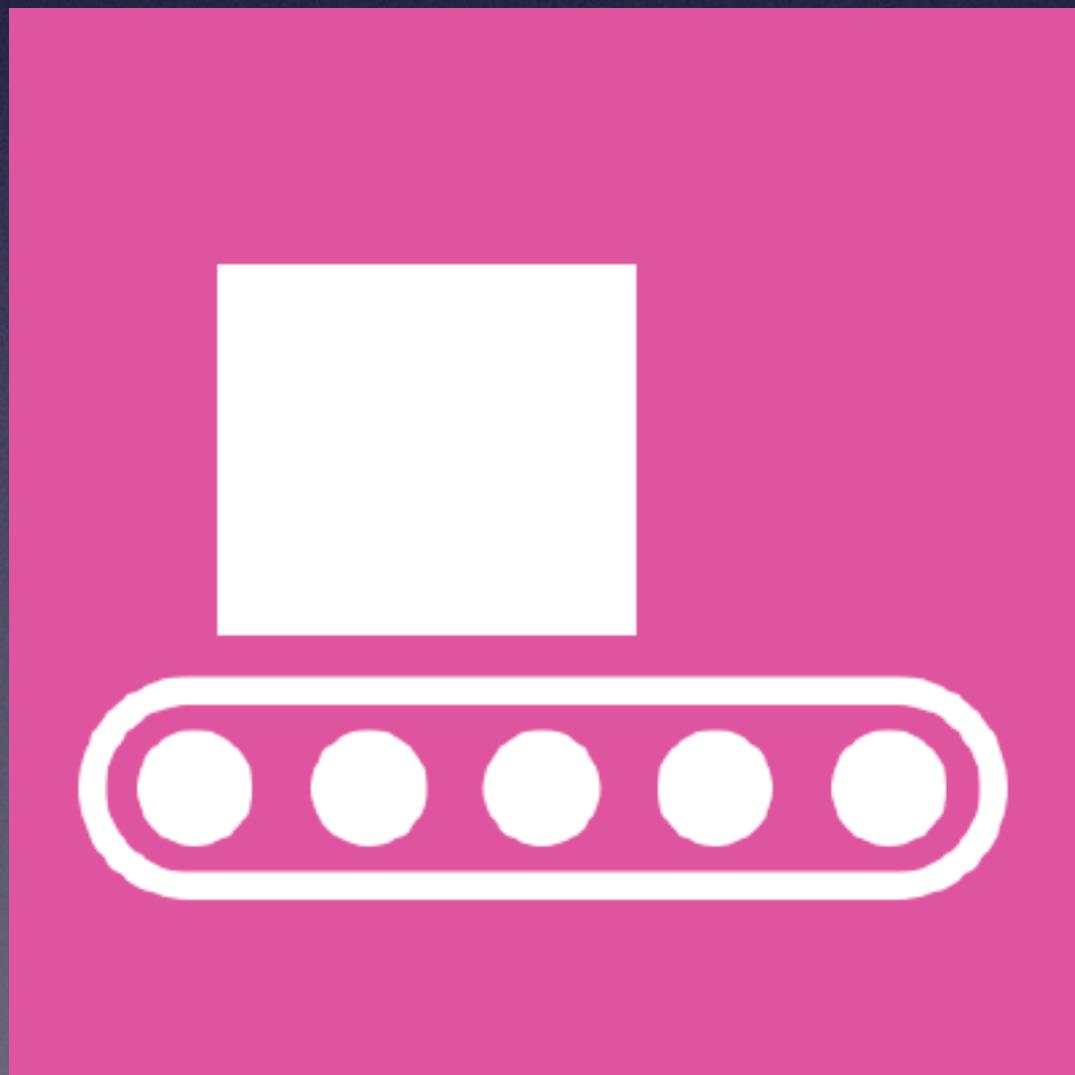
        split_on = self.env.get("split_on", " ")
        index = self.env.get("index", 0)
-        self.env["version"] = self.env["version"].split(split_on)[index]
-        self.output("Version: %s" % self.env["version"])
+        self.env["version"] = self.env["version"].decode('utf-8').split(split_on)[index]
+        self.output("Split version: {}".format(self.env["version"]))

if __name__ == "__main__":
commit 689fdf57c36001dee009e314f7e2b07e79caa073
Author: Elliot Jordan <homebysix@users.noreply.github.com>
Date:   Wed Apr 18 09:12:49 2018 -0700

    Handle special characters more gracefully

$ autopkg update-trust-info Vienna.install
Wrote updated /Users/areimer/Library/AutoPkg/RecipeOverrides/Vienna.install.recipe
$
```

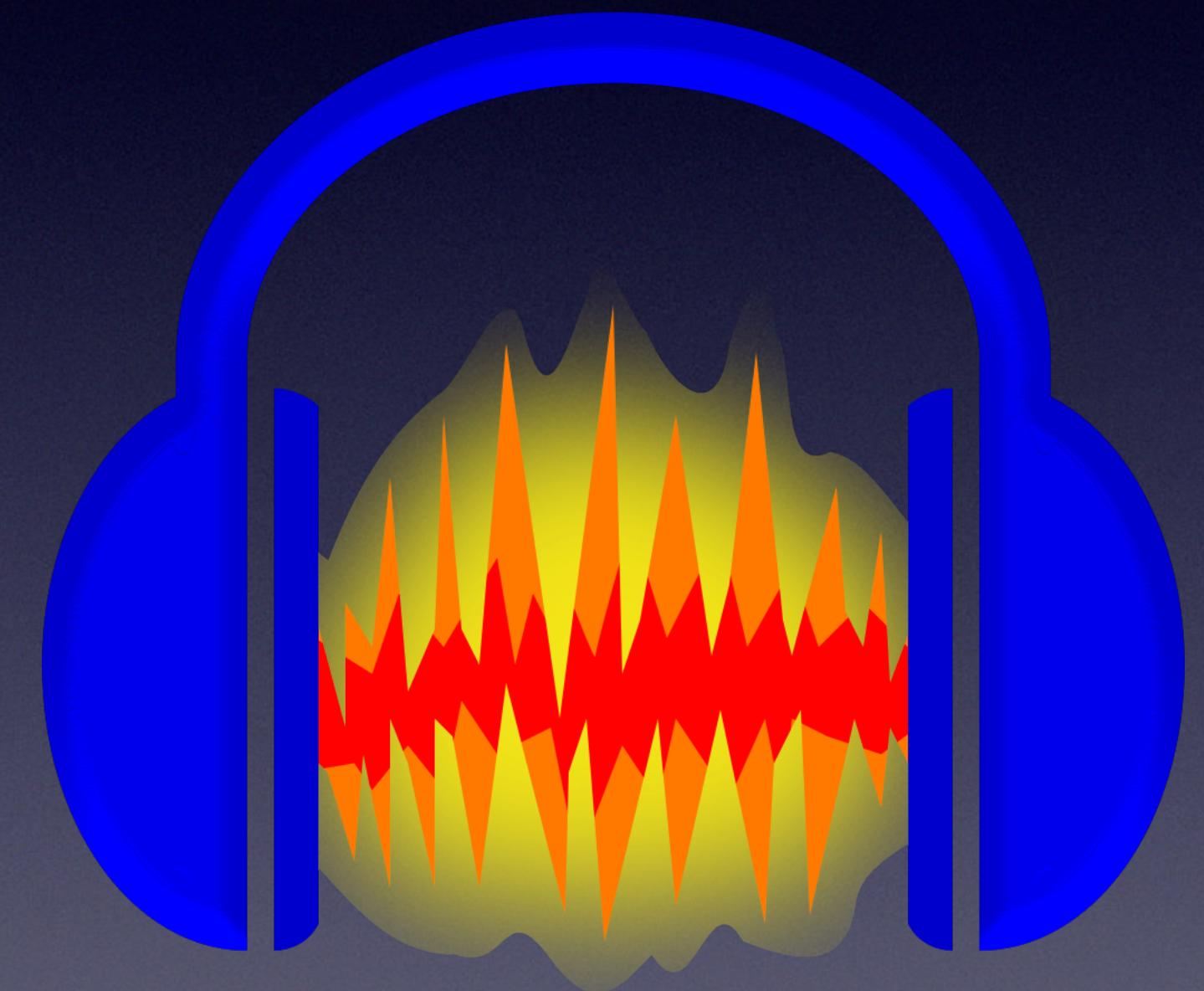
Miscellany



`autopkg run --pkg`

`autopkg run -p`

Audacity.pkg

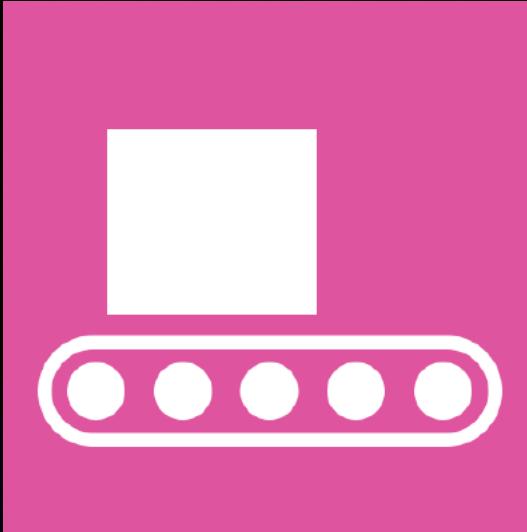


<https://github.com/autopkg/scriptingosx-recipes/>



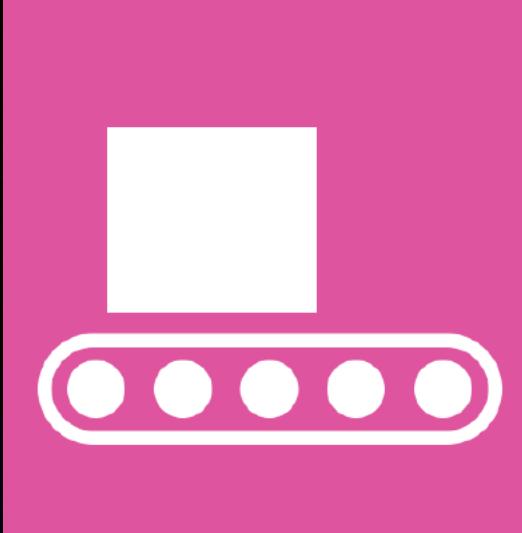
Audacity.pkg

1. User manually downloads .dmg
2. autopkg run Audacity.pkg
--pkg ~/Downloads/audacity-macos-2.2.2.dmg
3. App verified, then extracted from .dmg
4. App bundled as an installer package
with version information
5. Child recipes import into management systems
(Munki, Jamf Pro, etc.)



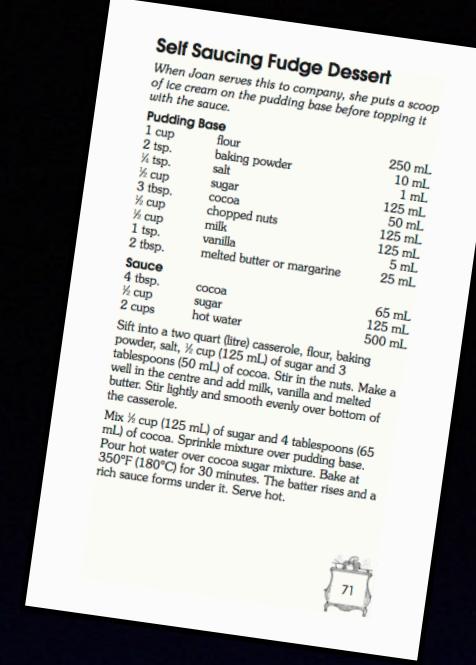
Resources

- AutoPkg Wiki
 - ▶ *github.com/autopkg/autopkg/wiki*
- #autopkg channel in MacAdmins Slack
 - ▶ *MacAdmins.org* to join
- AutoPkg Discussion List
 - ▶ *groups.google.com/group/autopkg-discuss*



Default Locations

- `/Library/AutoPkg`
- `~/Library/AutoPkg`
 - ▶ *Cache, RecipeRepos, RecipeOverrides, Recipes, Recipe Robot Output*
- `~/Library/Application Support/AutoPkgr`
 - ▶ *recipe list(s)*

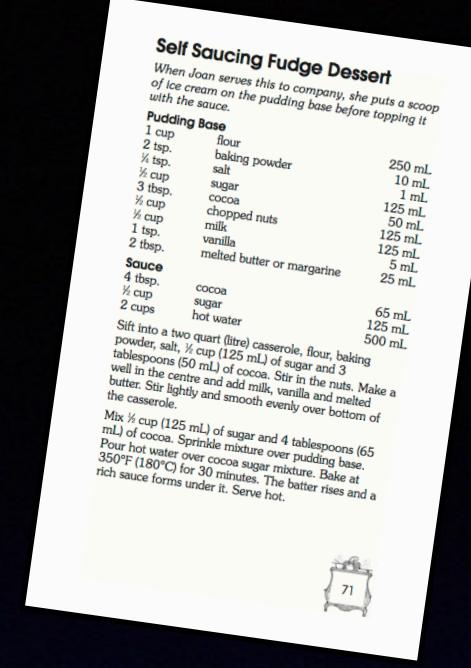


Stub Recipes

- Redirect to a different recipe (ParentRecipe)
- Define path to access shared processor
 - ▶ github.com/autopkg/autopkg/wiki/Processor-Locations#shared-recipe-processors
 - ▶ Noteworthy Processors:
github.com/autopkg/autopkg/wiki/Noteworthy-Processors

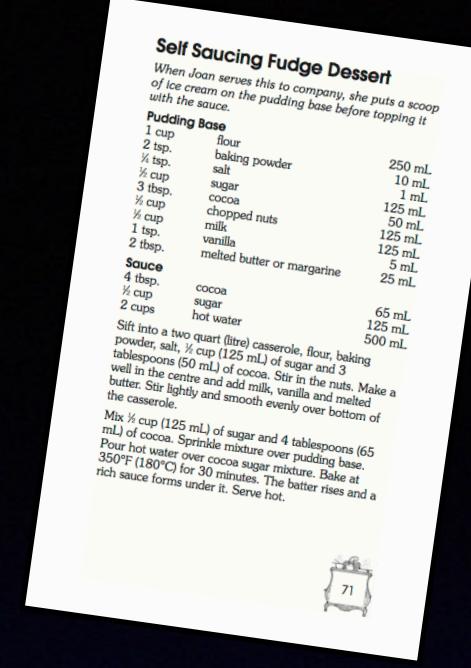
```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN"
"http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
    <key>Description</key>
    <string>Shared Processors for n8felton-recipes</string>
    <key>Identifier</key>
    <string>com.github.n8felton.shared</string>
    <key>Input</key>
    <dict/>
    <key>MinimumVersion</key>
    <string>0.4.3</string>
    <key>Process</key>
    <array/>
</dict>
</plist>
```

<https://github.com/autopkg/n8felton-recipes/blob/master/SharedProcessors/SharedProcessors.recipe>



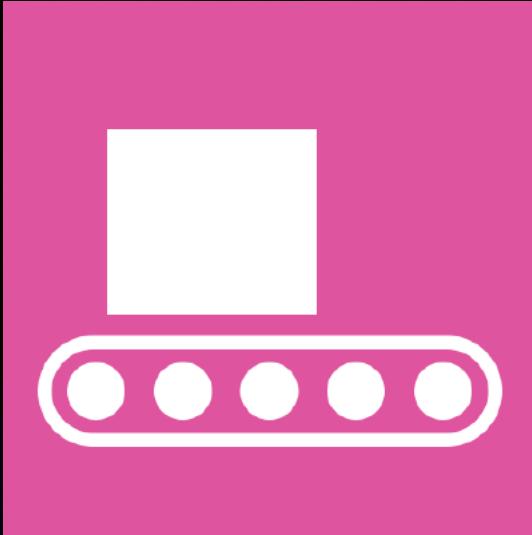
Custom Processor(s) Stub

Key	Value/Processors
Description	Shared Processors for n8felton-recipes
Identifier	com.github.n8felton.shared
Input	empty dict
Minimum Version	0.4.3
ParentRecipe	
Process	empty array



Recipe Type Comparison

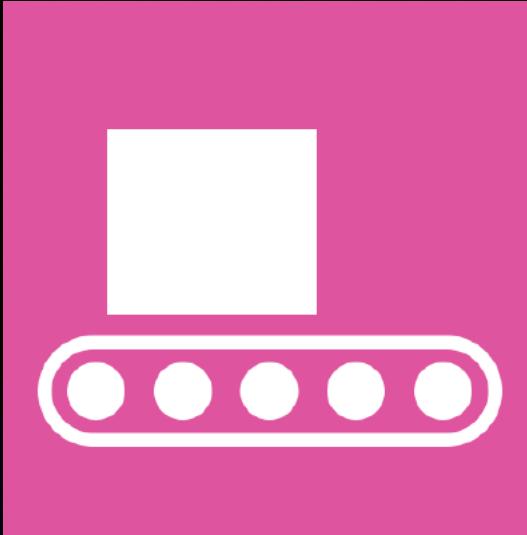
Key	Parent	Child	Override	Stub
Description	✓	✓		✓
Identifier	✓	✓	✓	✓
Input	optional	optional	optional	empty dict
Minimum Version	✓	✓		✓
ParentRecipe	sometimes	✓	✓	redirect only
Process	✓	✓		empty array
ParentRecipe TrustInfo			✓	



Type it for me

`~/.bash_profile`

► *github.com/jazzace/autopkg-level-up/tree/
master/aliases*



Type it for me

```
alias ap="autopkg"
```

```
alias notrust="defaults write com.github.autopkg  
FAIL_RECIPES_WITHOUT_TRUST_INFO -bool NO ; echo 'autopkg recipes  
without valid trust info are now able to run.'"
```

```
alias trust="defaults write com.github.autopkg  
FAIL_RECIPES_WITHOUT_TRUST_INFO -bool YES ; echo 'autopkg recipes  
without valid trust info will be prevented from running.'"
```

```
alias apr="autopkg run -vv"
```

```
alias aprnt='autopkg run -vv -k FAIL_RECIPES_WITHOUT_TRUST_INFO=""'
```



Replacing AutoPkgr Features (Jamf-centric)

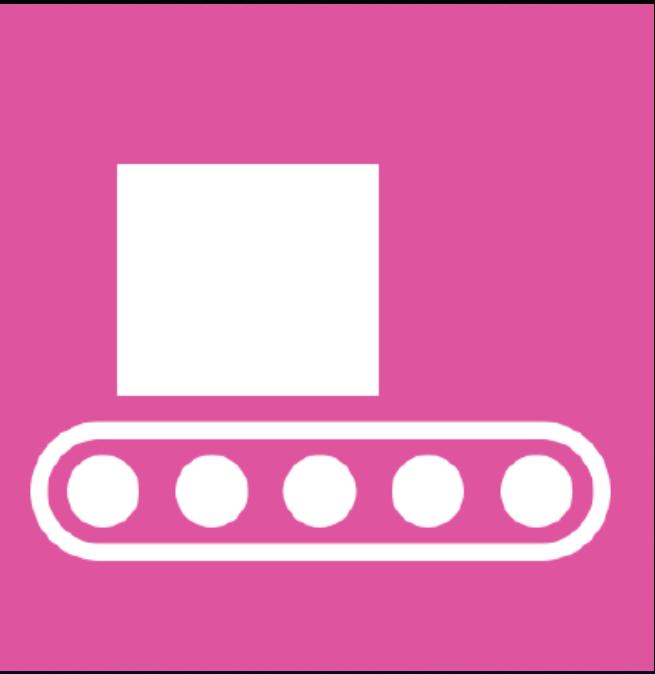
- Slacker (Graham Pugh)
 - ▶ *grahampugh.github.io/2017/12/22/slack-for-autopkg-jssimporter.html*
- autopkg-conductor (Rich Trouton)
 - ▶ *derflounder.wordpress.com/2018/07/06/automating-autopkg-runs-with-autopkg-conductor/*



Thanks!

- Greg Neagle
- Per Olofsson
- Tim Sutton
- Hannes Juutilainen
- Elliot Jordan
- Eldon Ahrold
- Shea Craig
- Allister Banks
- Nate Felton
- Joshua Miller
- William McGrath
- Rich Trouton
- Diana Birsan
- Patrick Fergus
- Eric Holtam
- Dan Kuehling
- Armin Briegel
- PSU Conference Committee

Resources For This Session:



github.com/jazzace/autopkg-level-up

Anthony Reimer

 [@AnthonyReimer](https://twitter.com/AnthonyReimer)

[jazzace](#)

 [jazzace](#)

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Session Feedback:

bit.ly/psumac2018-300

My Blog: maclabs.jazzace.ca

Anthony Reimer

 [@AnthonyReimer](https://twitter.com/AnthonyReimer)

[jazzace](#)

 [jazzace](#)

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